

Appl. No. 09/708,923
Reply to Office Action of Dec. 23, 2003
Docket No. TRNSV-001C

The following listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

Claim 1 (Previously and Currently Amended): A method for revascularization, said method comprising the steps of:

a) choosing a first location on a blood vessel that has a lumen containing blood having a pO_2 of at least 50; and

b) forming ~~an extravascular~~ a passageway that extends outside of said lumen and between said first location and a second location on a blood vessel, such that said blood will flow through said ~~extravascular~~ passageway, said passageway being formed by i) providing a passageway-forming catheter device that comprises an elongate flexible catheter body having a tissue-penetrating element passable therefrom; ii) inserting said catheter body into the vasculature and positioning said catheter body such that the tissue-penetrating element is located adjacent the location at which said passageway is to be formed; and iii) passing said tissue-penetrating element from said catheter body so as to form said passageway such that blood will flow from the first location through the passageway and to the second location.

Claim 2 (Previously Amended): The method of Claim 1 wherein said first location and said second location are in the heart.

Claim 3 (Original): The method of Claim 1 wherein said first location and said second location are on the same blood vessel.

Claim 4 (Original): The method of Claim 1 wherein said first location and said second location are

Appl. No. 09/708,923
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Docket No. TRNSV-001C

on different blood vessels.

Claim 5 (Previously amended): The method of Claim 4 wherein said blood vessels are an artery and a vein.

Claim 6 (Original): The method of Claim 4 wherein said blood vessels are a vein and a vein.

Claim 7 (Original): The method of Claim 4 wherein said blood vessels are an artery and an artery.

Claim 8 (Previously and Currently Amended): The method of Claim 1 [[4]] wherein step b comprises forming a plurality of said ~~extravascular~~ passageways ~~between said blood vessels~~.

Claim 9 (Previously Amended): The method of Claim 1 wherein step a comprises choosing a location upstream of an obstructed, injured or diseased segment of a blood vessel, and wherein said second location is downstream of the obstructed, injured or diseased segment, such that the blood bypasses the segment.

Claim 10 (Original): The method of Claim 1 wherein said first location is on an artery and said second location is on a vein, such that blood will flow from said artery, through said extravascular passageway, and into said vein.

Claim 11 (Previously Amended): The method of Claim 10 further comprising a step c) of causing the blood which has entered the vein through said extravascular passageway to flow in a retrograde direction through said vein so as to retroperfuse tissue through the venous vasculature.

Claim 12 (Previously Amended): The method of Claim 11 wherein step c comprises blocking said vein at a location adjacent said extravascular passageway.

Claim 13 (Original): The method of Claim 1 wherein the extravascular passageway formed in step b is a primary extravascular passageway formed between a first blood vessel and a second blood vessel

Appl. No. 09/708,923
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Docket No. TRNSV-001C

such that said blood will flow from the first blood vessel, through said extravascular passageway, and into the second blood vessel.

Claim 14 (Amended): The method of Claim 13 wherein said method further comprises the step of:

c) forming at least one secondary ~~extravascular~~ passageway between said second blood vessel and another blood vessel of the heart such that blood which has entered the second blood vessel through the first ~~extravascular~~ passageway will subsequently flow into another blood vessel through said secondary ~~extravascular~~ passageway.

Claim 15 (Amended): The method of Claim 14 wherein said blood is caused to flow into the other blood vessel through the secondary ~~extravascular~~ passageway by:

d) blocking the second blood vessel at a location adjacent the second ~~extravascular~~ passageway to cause said blood to flow from said second blood vessel through said second ~~extravascular~~ passageway and back into said other blood vessel.

Claim 16 (Previously and Currently Amended): The method of Claim 1 wherein at least one of said first and second locations is on a blood vessel which is part of a system of blood vessels wherein an obstructed, injured or diseased segment of a blood vessel is present, and wherein step b comprises forming the ~~extravascular~~ passageway so as to deliver the blood to a region that has been deprived of blood because of the obstructed, injured, or diseased segment.

Claim 17 (Cancelled)

Claim 18 (Amended): The method of Claim ~~17~~ 1 wherein ~~part i~~ part i of Step b further comprises: providing and using an orientation means for locating said first and second locations and for orienting the catheter device such that the tissue-penetrating element of the catheter will pass from said first location to said second location, thereby forming said ~~extravascular~~ passageway between said first location on a blood vessel and said second location on a blood vessel.

Appl. No. 09/708,923
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Docket No. TRNSV-001C

Claim 19 (Amended): The method of Claim ~~17~~ 1 wherein the tissue penetrating element of the device provided in part i of step b ~~[[i]]~~ further incorporates a lumen through which a guide wire may be passed upon creation of said ~~extravascular~~ passageway by said tissue-penetrating element, and wherein said method further comprises the step of:

passing a guide wire through said lumen and allowing said guide wire to remain extended through said ~~extravascular~~ passageway following extraction and removal of said catheter, to thereby provide for subsequent advancement of one or more other apparatus through said passageway, over said guide wire.

Claims 20-59 (Previously withdrawn)